

The Indian Trends in Risk Management Practices

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Abstract

Risk Management is “A systematic way of protecting the concern’s resources and income against losses so that the aims of the business can be achieved without interruption”. The management of safety risk is focused on prevention and mitigation of harm. In the insurance parlance, the Risk Management is a tool identifying business opportunities to design and modify the insurance products. In addition to the utility for insurance underwriting business, risk management (RM) consultancy services are considered as the value addition to the clients of insurance companies. The elementary Risk Audits for underwriting, specific audits like Fire Safety Audits, Electrical safety Audits, Comprehensive Safety Audits, Risk Based Audits, Machinery Breakdown Risk Assessment, Business Interruption Risk Assessment, Flood Risk Management etc has been practiced for the improvements of the Risk level in the organizations. The introduction of thermography for preventive maintenance, scheduled maintenance in the Indian Industries, extensive use of techniques like HAZOP, LOPA for risk assessment and logistic Risk Management with the use of sophisticated instruments like data logger has improved the Indian trends of Risk Management to the truly international standard. Various catmodels by mathematical simulations is being carried out to handle the catastrophic risks by insurance and reinsurance companies. The Indian Risk Management companies like Chola mandalam MS Risk Services winning the Risk Manager of the year 2007 from Asia Insurance Review Awards is a truly recognition of the improvised risk management practices in the subcontinent leading towards better safer and less hazardous working places in the Indian Industries

Introduction

Benjamin Franklin observed that ‘in this world nothing can be said to be certain, except death and taxes’. Yet there is some uncertainty about even those two phenomena: none can be sure when he will die, and tax rules and rates are frequently changed implying that the whole life is surrounded by uncertainty.

Risk can be defined as the combination of the probability of an event and its consequences (ISO/IEC Guide 73). In all types of undertaking, there is the potential for events and consequences that constitute opportunities for benefit (upside) or threats to success (downside).

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Risk Management is “A systematic way of protecting the concern’s resources and income against losses so that the aims of the business can be achieved without interruption”.

Risk Management is increasingly recognized as being concerned with both positive and negative aspects of risk. Risk management is a central part of any organization’s strategic management. It is the process whereby organizations methodically address the risks attaching to their activities with the goal of achieving sustained benefit within each activity and across the portfolio of all activities. In the safety field, it is generally recognized that consequences are only negative and therefore the management of safety risk is focused on prevention and mitigation of harm. In the insurance parlance, the Risk Management is a tool identifying business opportunities.

Risk Management Process:

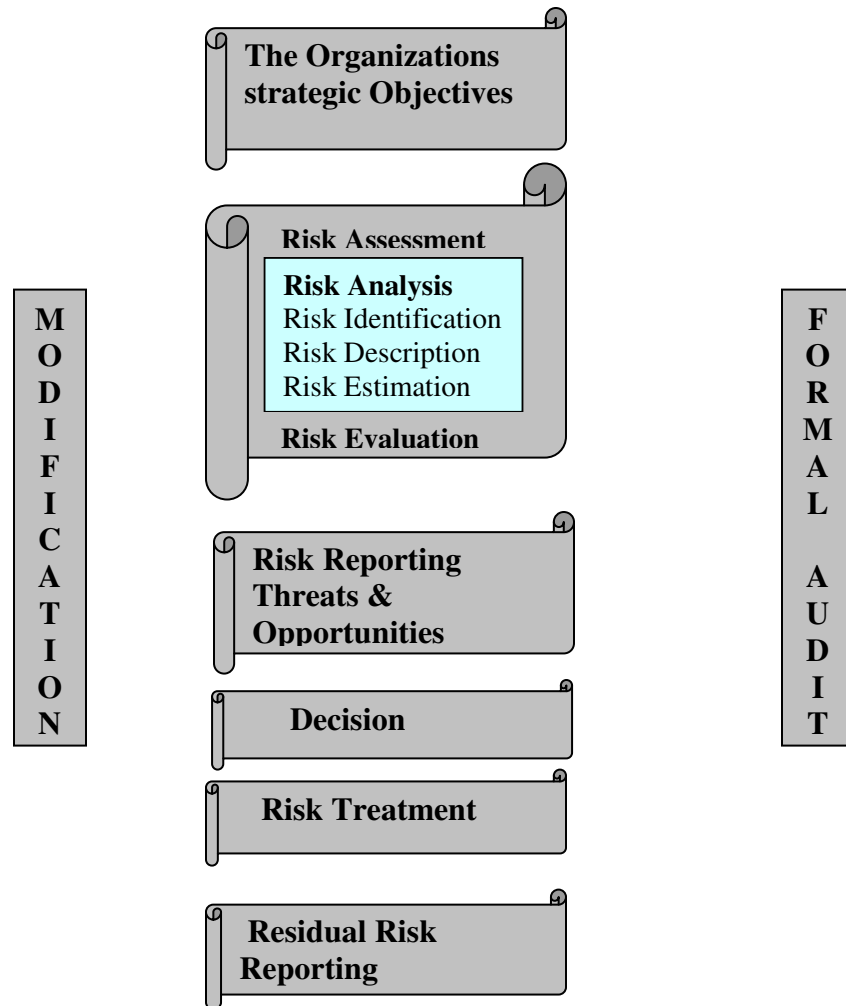
Risk Management suggests providing a framework for an organization that enables future activity to take place in a consistent and controlled manner

- Improving decision making, planning and prioritization by comprehensive and structured understanding of business activity, volatility and project opportunity/threat
- Contributing to more efficient use/allocation of capital and resources within the organization
- Reducing volatility in the non essential areas of the business
- Protecting and enhancing assets and company image
- Developing and supporting people and the organization’s knowledge base
- Optimizing operational efficiency

Factors of General Risk Management Process:

External and Internal Factors- The risks facing an organization and its operations can result from factors both external and internal to the organization. The diagram overleaf summarizes examples of key risks in these areas and shows that some specific risks can

have both external and internal drivers and therefore overlap the two areas. They can be categorized further into types of risk such as strategic, financial, operational, hazard, etc.

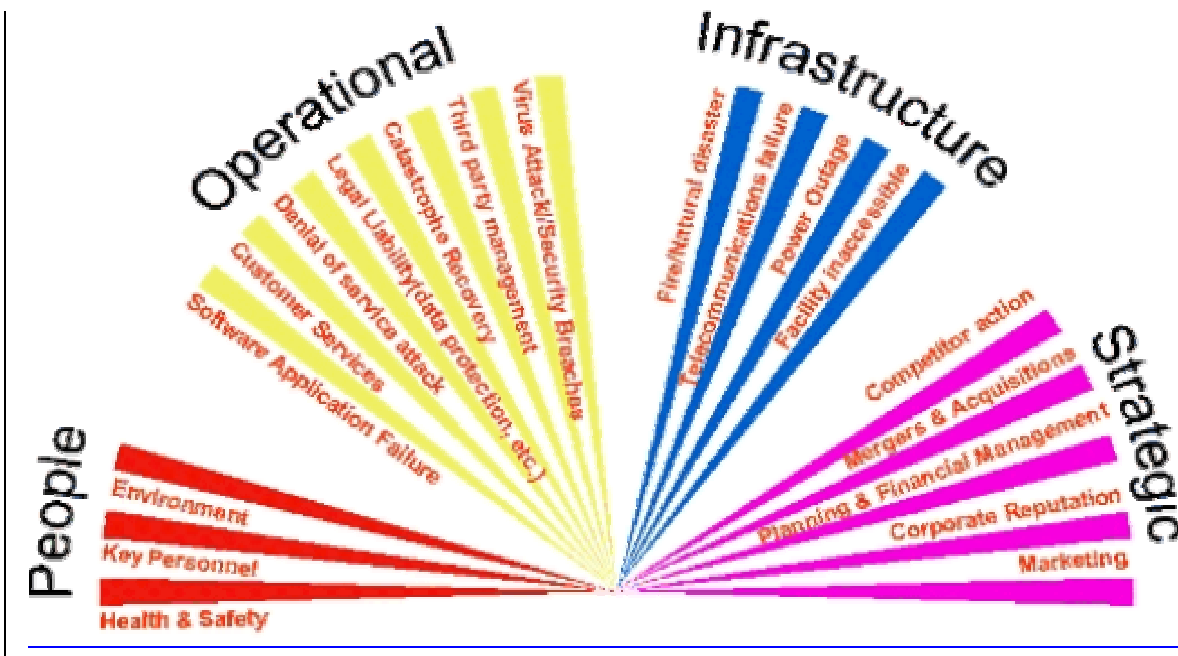


*The most and important part of the Risk Management process is the **Risk Assessment***

***Risk Assessment – a process of evaluation including the identification of the attendant uncertainties, of the likelihood and severity of an adverse effect(s)/event(s) occurring to man or the environment following exposure under defined conditions to a risk source(s).** (European Commission, 2000)*

<i>Risk Assessment stage</i>	<i>Definition</i>
Hazard identification	The identification of a risk source(s) capable of causing adverse effect(s)/event(s) to humans or the environment, together with a qualitative description of the nature of these effect(s)/event(s).
Hazard characterization	The quantitative or semi-quantitative evaluation of the nature of the adverse health effects to humans and/or the environment following exposure to a risk source(s).
Exposure assessment	The quantitative or semi-quantitative evaluation of the likely exposure of man and/or the environment to risk sources from one or more media.
Risk characterization	The quantitative or semi-quantitative estimate, including attendant uncertainties, of the probability of occurrence and severity of adverse effect(s)/event(s) in a given population under defined exposure conditions based on hazard identification, hazard characterization and exposure assessment.

Risk Spectrum Method of Explaining Risk Associated with Business:



Risk Management Practices in Indian Insurance Industry

Insurance industry is keen in identifying the risks pertaining to their business. The property, interruption and liability related risks are keenly looked at by the insurers. The risk management services like underwriting inspections or post loss inspections for settlement claims are used by them in India. The support of public sector insurance companies sponsored organizations like Loss Prevention Association of India (LPA), Tariff Advisory Committee (TAC) was availed by the insurers in addition to the in-house services of individual companies.

After the dissolution of Loss prevention Association of India and redefined roles of Tariff Advisory Committee, the companies started looking for specialized risk management services from private sector. The de-tariffication has necessitated the use of risk services in the insurance companies, broking houses as well as single entity firms. In addition to their utility for insurance underwriting business risk management (RM) consultancy services are considered as the value addition to the clients of insurance companies. The advent of multinational companies and realization of importance of RM services by the

clients have forced insurance companies to bring the innovative services of RM consultancy to the Indian markets.

Some Important Risk Assessment tools:

Elementary Risk Audits for identification of good risks from bad risks- usually adopted by the insurance companies for underwriting.

Safety related Audits – i.e. Fire Safety Audit, Electrical Safety Audit, Comprehensive Safety Audits etc. has become a tool more than a statutory compliance to the safety improvements for the organization and minimization of hazard level.

Risk Based Audits like **Machinery Breakdown Risk** and ensuing **Business interruption Audits** have become very important to power plants, Wind energy mill, Cement Industry etc to improve the maintenance practices as well as for Risk financing i.e. insurance coverage, risk pooling etc.

Change of climate in India have resulted increased monsoon levels at various locations of the country. The major flood claims experienced in some parts of the country made the insurers and insureds to think about specialized services addressing the risks like Flood Risk Assessment, Fire Protection review, Lightning Protection Review etc which are becoming popular even at the Large size SME's (Small & Medium Scale Enterprises) beside the large enterprises.

Specific Risk Managements- Flood Risk Management is being addressed in many industries with or with out the support of insurers.

Modern Trends of Risk Management

Some Innovations and International practices in the Indian Market like Thermography for Risk Management, Energy Conservation, Layer of Protection Analysis (LOPA) for Chemical & Petrochemical Industries, Hazardous Industries.

The earlier edition of Pravartak carried an article suggesting LOPA as a tool for underwriting major hazardous industries like Chemical, Petrochemical, fertilizer industries etc.

The Layer of Protection Analysis (LOPA) which is used as the part of PLANOP (Progressive Loss of Containment Analysis – Optimizing Prevention) technique invented by American Institute of Chemical Engineers, USA as Process Hazard Analysis technique can also be used as an effective underwriting tool.

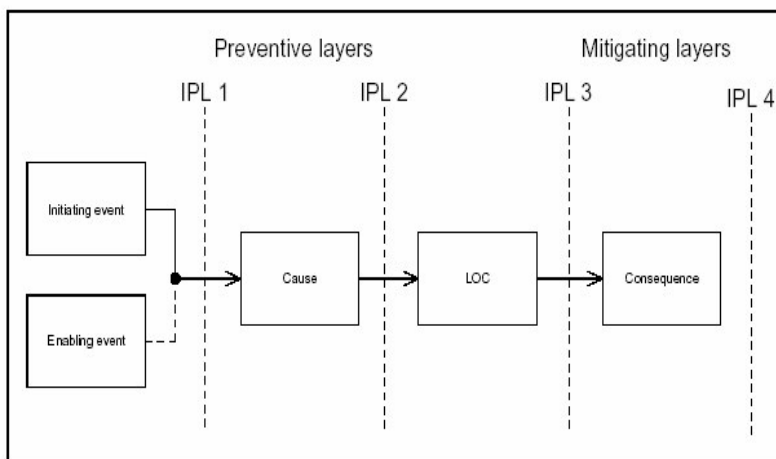


Fig LOPA Scenario

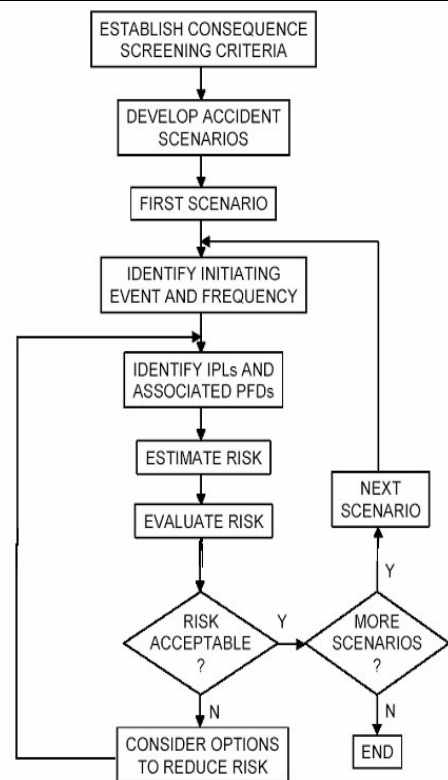


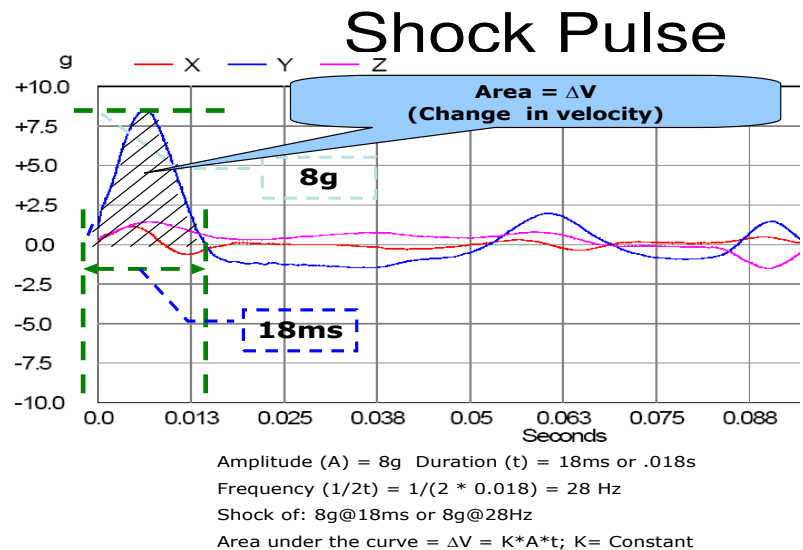
Fig Methodology of LOPA process

Because of Industrialization across the country, the logistic requirement for transportation of raw material, machinery, equipments, construction equipments etc has scaled up and so as the logistic risk management requirements. The introduction of sophisticated instruments like shock loggers/ data loggers to compute and evaluate the shock waves on the packaging and review the consequences like transit losses has helped to reduce

automobile companies while transporting cars, heavy equipment manufactures like transformers etc.

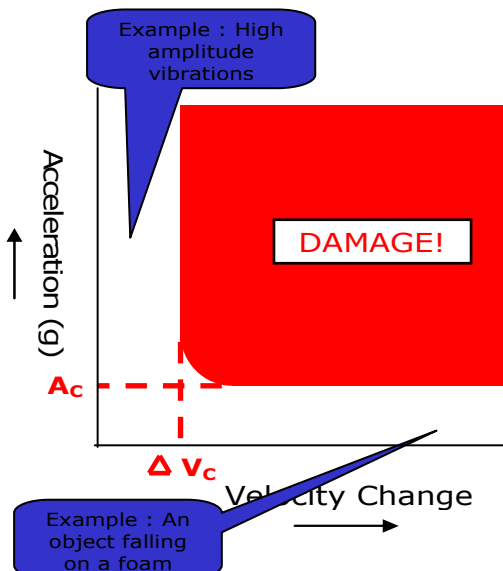
What does a data logger?

- ✚ Measure the slippage of the lashing system
- ✚ Evolve the gravitational force profile
- ✚ (Data logger would be fastened on to the rack etc. and data would be downloaded at the end of the journey)



DBC – Damage Boundary Curve

- There are two parts of a shock which can cause damage, the acceleration level and the velocity change.
- There is a minimum acceleration level called the **critical acceleration** below which the product is not damaged.
- There is a minimum velocity change called **critical velocity change** which must be achieved before damage to the product can occur.



The focus of good risk management is the identification and treatment of these risks. Its objective is to add maximum sustainable value to all the activities of the organization. It marshals the understanding of the potential upside and downside of all those factors which can affect the organization. It increases the probability of success, and reduces both the probability of failure and the uncertainty of achieving the organization's overall objectives.

Recently, terms as Risk Management is heard along with the terms like “ Holistic Risk Management” , “Risk Management Models”, “Risk Models”, “ Enterprise Risk management” also the introduction of Chief Risk Officers in various organization in the top management has shown the importance of Risk management among the organizations.

The SwissRe publication on ‘Risk and Capital Some thoughts on Risk modeling in insurance companies’ suggests about the risk models with an example of a paper plane is a model without having the color, look or shape of an aircraft but resembles it by flying in the air. Also provide another example of a model aircraft having the similar looks and design to give a feel about an aircraft but that cannot fly. The example beautifully explained about the objectives of each model. Risk models are also developed with a specific purpose and objective and each risk model serves its own purpose.

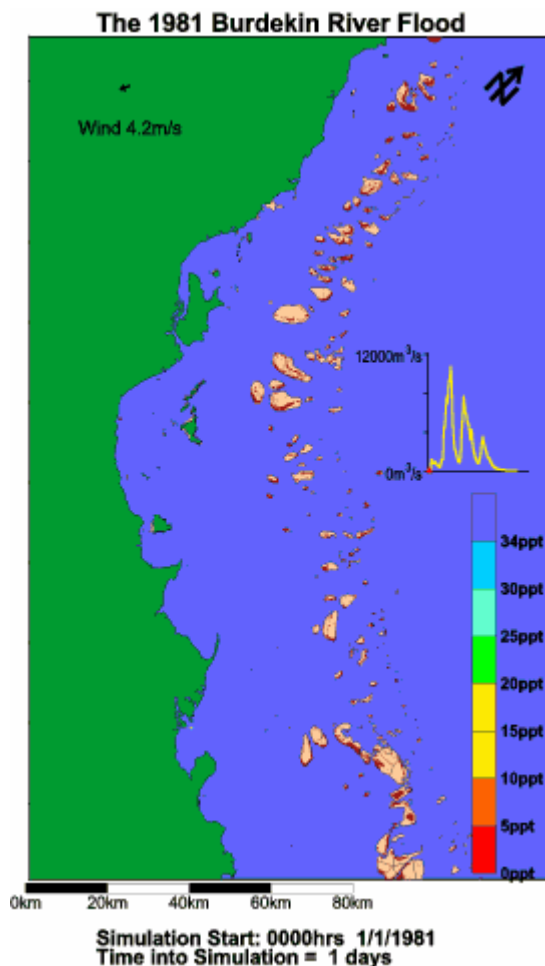
In addition to the findings of the European Commission, reference is again made to the *KPMG* study. The study also emphasizes the integrated view of a company, which allows for exploring interdependencies:

- ✚ Risk models offer the advantage of combining all relevant operations of an insurance company (eg underwriting, investment, pricing, taxes, assets, liabilities etc) into an integrated model which provides an insight into future operations and capital requirements.
- ✚ Risk models can be beneficial in evaluating decisions and in analyzing alternative business strategies. These evaluations or analysis should focus on major risk

scenarios, including what happen if more than one thing goes wrong at the same time.

- ✚ Risk models also provide information on options or strategies, identifying those with the latest significant risks and those with the greatest rewards. Thus they can help companies prepare strategies to deal with financial threats.

The high speed computing with research has given rise to the development of various modeling. The Mumbai flood has lead the eyebrows of several insurance and reinsurance companies. Flood modeling with other catastrophic modelings are now being developed to quantify such catastrophes and is becoming a tool for pricing of risks for insurance and reinsurance.



A 3-dimensional hydrodynamic model was employed to simulate a flood of freshwater from the Burdekin River into the coastal waters of the Great Barrier Reef (GBR). The model was verified for the entire 1981 flood event using actual discharge data and actual wind data for the river, against the historical field data. This flood was chosen for the validation of the model as it was the only flood event for which an extensive survey and data set of the river plume existed. The river delivered almost 19 billion tonnes of freshwater to the GBR lagoon from 3 separate flood events over the period, with peak discharges exceeding 12,000 tonnes of water per second. Comparisons between model results and field data for 3 different days of field surveys shows very good agreement between the observed and predicted salinity distribution in coastal waters at corresponding times.

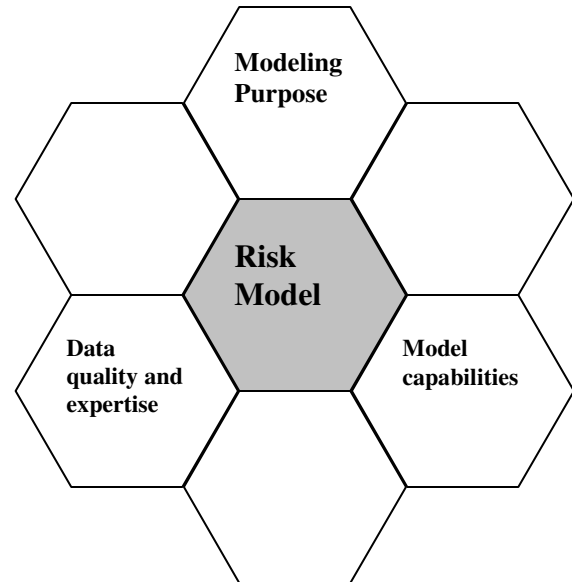
Sensitivity analysis on the model runs showed that the main driving influences on the fate of the plume water were the discharge volume of the river and the local wind forcing.

Brian King, Simon Spagnol, Eric Wolanski and Terry Done
(1998) Modeling the Mighty Burdekin River in Flood. In M I

SwissRe publication advocates about Risk Model to be successful that depends on:

The publication classifies Risk Models to be:

- ✚ Purpose & granularity
- ✚ Internal and external perspective
- ✚ Modeled risk fields
- ✚ Deterministic and probabilistic models
- ✚ Single-period and multi-period models
- ✚ Static and dynamic models.



Status of Risk Management in Present Day Scenario:

Since the Indian general Insurance market is now deregulated in terms of insurance pricing and about to go for deregulated coverage and the rates of insurance premium already touching the bottom level at the time when the customer has become more demanding, the risk management requirement is increasing in the customer premise as well as for the insurance company's appetite for underwriting.

Risk management should be a continuous and developing process which runs throughout the organization's strategy and the implementation of that strategy. It should address methodically all the risks surrounding the organization's activities past, present and in particular, future. It must be integrated into the culture of the organization with an effective policy and a programme led by the most senior management. It must translate the strategy into tactical and operational objectives, assigning responsibility throughout the organization with each manager and employee responsible for the management of risk as part of their job description. It supports accountability, performance measurement and reward, thus promoting operational efficiency at all levels.

Conclusion:

India has become one of the most attractive destinations for key players across the globe for indirect investment, FDI (Foreign Direct Investment), new ventures etc with economy rising at a rate higher than 9%. Export increasing year on year basis with increase in clientele base across the globe for products, services and supports. The participation with the global players has not only helped to bring the global technology, standards and practices to India but the Indian Standards of practices has improved up to international standard. The Indian Risk Management companies like Cholamandalam MS Risk Services winning the Risk Manager of the year 2007 from Asia Insurance Review Awards is a truly recognition of the improvised risk management practices in the subcontinent leading towards better safer and less hazardous working places in the Indian Industries.

